

BURNED AREA EMERGENCY STABILIZATION AND REHABILITATION PLAN

Winsor Fire (2368)

April 5, 2002

U.S. FISH AND WILDLIFE SERVICE

HAVASU NATIONAL WILDLIFE REFUGE

Prepared by: _____ Date: _____
Assistant Fire Management Officer Fuels

Prepared by: _____ Date: _____
Manager, Havasu NWR

Reviewed by: _____ Date: _____
Fire Ecologist, Region 2

Reviewed by: _____ Date: _____
Regional Fire Coordinator, Region 2

Approved by: _____ Date: _____
Refuge Supervisor, AZ/NM

Approved by: _____ Date: _____
Regional Director, Region 2

Winsor Fire (2368)

BURNED AREA EMERGENCY STABILIZATION AND REHABILITATION PLAN

AGENCY/UNIT: U.S. Fish and Wildlife Service, Havasu National Wildlife Refuge
317 Mesquite Avenue, P.O.Box 3009
Needles, CA 92363 Phone: 760-326-3853

LOCATION/SIZE: Lake Havasu City, Havasu National Wildlife Refuge/10 Acres
T14N, R20W, Sec. 33
Lat. 34 30' 21" Long. 114 21' 46"

DATE: March 27, 2002

TABLE OF CONTENTS

TABLE OF CONTENTS	1
EXECUTIVE SUMMARY	2
PART A - FIRE LOCATION AND BACKGROUND INFORMATION	4
PART B - NATURE OF PLAN	5
PART C - EMERGENCY REHABILITATION ASSESSMENT	5
PART D - TEAM ORGANIZATION, MEMBERS, AND RESOURCE ADVISORS	6
PART E - SUMMARY OF ACTIVITIES AND COSTS	6
PART F - POST-REHABILITATION REQUIREMENT	8
PART G - REVIEW AND APPROVAL	9
APPENDIX I - ENVIRONMENTAL COMPLIANCE	11
APPENDIX II - PHOTOS (attached files)	14

EXECUTIVE SUMMARY

Introduction

This plan has been prepared in accordance with specific agency policy. This plan provides burned area emergency stabilization and rehabilitation (ESR) recommendations for lands burned within the Winsor Fire perimeter which lie within the Havasu National Wildlife Refuge administered by the U.S. Fish and Wildlife Service (USFW). The primary objectives of the Winsor Fire Burned Area Emergency Stabilization and Rehabilitation (ESR) Plan are:

Rehabilitation

- To repair or improve lands unlikely to recover naturally from severe wildland fire damage by emulating historical or natural ecosystem structure, function, diversity, and dynamics according to approved land management plans (095 FW 3.9 C (1), (a), (b)).
- Restore or establish healthy, resilient ecosystems, even if these ecosystems cannot fully emulate historical or natural conditions as specified in approved land management plans (095 FW 3.9 C (1), (a)).

This plan addresses emergency rehabilitation of fire damages.

The burned area emergency stabilization and rehabilitation (ESR) team consisted of James McCray, AFMO, Fuels, Lower Colorado River Interagency Fire Management Group and Greg Wolf, Refuge Manager, Havasu National Wildlife Refuge. On the morning of March 26, 2002 the team did an on-site evaluation of the Winsor burn area. The area burned by the fire was dominated by mature Tamarisk (*Tamarix ramosissima*) and cat tails (*Typha angustifolia*) with numerous mesquite and willow trees present. The team found extensive damage to the riparian area adjacent to the lake shore. Several large willow (*Salix gooddingi*) and mature Honey and Screwbean mesquite trees (*Prosopis glandulosa*, *Prosopis pubescens*) were killed or severely damaged by the fire. There was also severe damage to wooden erosion control structures (railroad ties) along a trail running through the burned area. Severe radiant heat damaged a vinyl coated metal park bench and interpretive sign immediately adjacent to the burned area perimeter. Sedimentary erosion can be expected to increase due to the destruction of shore line vegetation.

On the morning of March 27, 2002 GPS Specialist, David Repass mapped the fire perimeter using a Trimble GPS unit. Locations of select snag trees to be left as wildlife habitat were marked and recorded in the GIS data base for this incident.

Fire Background

The fire started in the early morning hours (approximately 01:30) of March 2, 2002. The fire was human caused. Initial attack of the fire was initiated by the Lower Colorado River Interagency Fire Management Group engines from the Parker Interagency Fire Station. The fire exhibited extreme fire behavior including fire whirls, spotting, and torching with winds up to 25 mph. It grew at a rate of approximately 10 chains per hour to a size of 10 acres and spotted to a location approximately 40 meters south of the original location before being suppressed by the fire crews. The radiant heat and intensity of the fire was extreme. Engines from Phoenix BLM, Kingman BLM, and the Mojave Valley Interagency Fire Station in Arizona also responded. The fire was mopped up March 3rd, 4th and 5th and declared controlled by Patrick Pearson, the Incident Commander, on March 6th, 2002.

Fire Damages and Threats to Human Safety, Natural and Cultural Resources

No significant damages were caused by fire suppression activities. One fire engine became stuck in a gravel area adjacent to the parking lot creating a small ditch. The fire did threaten nearby homes along the southern perimeter. The current burned area condition poses no threat to human safety or cultural resources in the area.

Management Requirements

The area lies within the Havasu National Wildlife Refuge and is adjacent to an important recreational area along the south shore of Lake Havasu. The site is popular for hiking, boating, bird watching, and is used by tourists and local residents alike. Various partners in the Lake Havasu Fisheries Improvement Program, including the U.S. Bureau of Reclamation (BR), Bureau of Land Management (BLM) and Lake Havasu City would be interested partners along with the U.S. Fish and Wildlife Service (Service) in rehabilitating and revegetating this area.

Rehabilitation

The burned area presents an opportunity to prevent the invasive exotic Tamarisk (*Tamarix ramosissima*) from further dominating this area by restoring it with native riparian plant species. This should also enhance the water resources available to wildlife and plants at this site, because native species use much less water for evapotranspiration compared to Tamarisk. Restoring native plants will help stabilize soils by mitigating gully and sheet erosion of soil, ash, and woody debris, thereby reducing the erosion of these elements and their impacts to the lower watershed and riparian habitat.

Guidance for rehabilitation of wildfire areas is provided by the U.S. Fish and Wildlife Service Fire Management Handbook (Release: 7/17/00) and 095 FW3 (2/00).

Guidance limits the use of fire rehabilitation funds to stabilize soils and biotic communities no later than 2 growing seasons, or a maximum of 3 years after initial plan approval. The stabilization of biotic

communities should minimize unacceptable changes to ecosystem structure and function resulting from wildfire. Such stabilization allows for the establishment of shrubs, forbs, grasses, and trees if demonstrated to meet project objectives. Also allowed are efforts to minimize the establishment of non-native invasive species to prevent burned area degradation.

Our objective for the Winsor Fire rehabilitation plan is to first remove as much of the burned aerial vegetation (Tamarisk skeletons) as possible using heavy equipment. This can be done effectively by using a Caterpillar D-7 or equivalent with a blade and root knife. Tamarisk resprout vigorously after burning. After 4 to 6 months the resprouts would be treated with herbicide (Garlon 4) in a basal bark application. Studies on the Bosque del Apache National Wildlife Refuge have shown up to 98% mortality using these methods. Maintenance would consist of herbicide application at 6 month intervals or as needed to completely eliminate Tamarisk from the project site.

Replanting of native Mesquite (*Prosopis pubescens*, *P.glandulosa*), Cottonwood (*Populus fremontii*), and Willow (*Salix exigua*, *S. goodingii*) would follow at a rate of approximately 80 to 100 trees per acre. The proportions would be approximately 80% Mesquite, 10% Cottonwood, and 10% Willow. These proportions are a suggestion based upon the pre-fire proportions of these species existing in the area. The mix can be adjusted following soil testing to determine optimum suitability. The newly planted trees would be irrigated by a drip irrigation and timer system. If salinity of the soils is too high, cost effective measures to correct the problem would be evaluated. If not practical to replant Mesquite, Cottonwood or Willow, salt tolerant natives such as Saltbush (*Atriplex canescens*) would be considered.

The burned erosion control structures lining the trail and the interpretive sign and park bench would be replaced.

PART A - FIRE LOCATION AND BACKGROUND INFORMATION

Fire Name	Winsor
Fire Number	2368 (USFW) C-760 (BLM)
Agency Unit	Havasupai National Wildlife Refuge
Region	2
State	Arizona
County(s)	Mojave
Ignition Date/Cause	March 2, 2002 / Human Caused
Zone	
Date Controlled	March 6, 2002

PART B - NATURE OF PLAN

I. Type of Plan (check one box below)

	Emergency Stabilization
X	Rehabilitation
	Both Emergency Stabilization and Rehabilitation

II. Type of Action (check one box below)

X	Initial Submission
	Updating or Revising the Initial Submission
	Supplying Information of Accomplishment to Date on Work
	Different Phase of Project
	Final Accomplishment Report (To Comply with the Closure of the 9262 Account)

PART C - EMERGENCY REHABILITATION ASSESSMENT

Rehabilitation Objectives

- Stabilize burned slopes (up to 5%) to prevent onsite soil erosion and off-site transport of ash, soil, and woody debris to Lake Havasu and adjacent wetland areas.
- Prevent aggressive regrowth and re-establishment of undesirable exotic plant species such as Tamarisk (*Tamarix ramosissima*).
- Rehabilitate former Tamarisk areas with willows, mesquites, and other native species as specified in the Lower Colorado River National Wildlife Refuges Comprehensive Management Plan.

PART D - TEAM ORGANIZATION, MEMBERS, AND RESOURCE ADVISORS

II. Burned Area Emergency Rehabilitation (BAER) Team Members: *(List of technical specialists used to develop the plan)*

Position	Team Member (Agency)
Team Leader	James McCray, USFWS
Public Information	Greg Wolf, USFWS
Operations	
NEPA Compliance & Planning	James McCray, USFWS
Hydrologist	
Soil Scientist	
Geologist	
Cultural Resources/Archeologist	Dave Siegel,USFWS
Vegetation Specialist	Greg Wolf, USFWS
Wildlife Biologist	Greg Wolf, USFWS
GIS Specialist	David Repass, BLM
Documentation/Computer Specialist	
Photographer	James McCray/David Repass
<i>Other Technical Specialists</i>	

PART E - SUMMARY OF ACTIVITIES AND COSTS

The summary of activities and cost table below identifies emergency rehabilitation costs charged or proposed for funding from Emergency Fire Rehabilitation funds. Expenditures are displayed in the total cost column.

PART E - SUMMARY OF REHABILITATION ACTIVITIES - COST SUMMARY TABLE - Winsor Fire

Title	Unit	Unit Cost	# of Units	Cost by Funding Source		Implementation Method	Specification Total
				EFR	OP/O		
Heavy Equipment Operation (Agency)							
D-7 CAT Clear and pile aerial vegetation.	hr.	\$ 75.00	40	\$ 3,000		Agency	\$ 3,000
D-7 CAT Root knife and rake Tamarisk roots.	hr.	\$ 75.00	40	\$ 3,000		Agency	\$ 3,000
1 WG-10 Equip. Operator wages w/benefits	hr.	\$ 21.83	80	\$ 1,746		Agency	\$ 1,746
Contractor Services							
Initial Soil testing	job	\$ 1,200.00	1	\$ 1,200		Contractor	\$ 1,200
Advanced soil testing and Landscape Design	job	\$ 9,600.00	1	\$ 9,600		Contractor	\$ 9,600
Hand clearing/chain saw work/herbicide	job	\$ 6,850.00	1	\$ 6,850		Contractor	\$ 6,850
Debris disposal/haul away	job	\$ 6,000.00	1	\$ 6,000		Contractor	\$ 6,000
Drip irrigation system w/power supply/timers	ea	\$ 9,000.00	1	\$ 9,000		Contractor	\$ 9,000
Supplies							
Willow, Cottonwood, Mesquite Seedlings	ea	\$ 3.50	1000	\$ 3,500		Purchase	\$ 3,500
Lumber/railroad ties (erosion control)	ea	\$ 10.00	50	\$ 500		Purchase	\$ 500
Interpretive sign	ea	\$ 350.00	1	\$ 350		Purchase	\$ 350
Park Bench	ea	\$ 250.00	1	\$ 250		Purchase	\$ 250
Miscellaneous							
Travel and per diem		\$ 1,000.00		\$ 1,000		Agency	\$ 1,000
Monitoring of re-vegetation results (FY04)		\$ 2,500.00		\$ 2,500		Agency	\$ 2,500
				\$ 0			\$ 48,496

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNITS COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 03	Havasu			\$8,746	EFR	P
FY 03	Havasu			\$37,250	EFR	C
FY04	Havasu			\$2,500	EFR	P
TOTAL						

FUNDING SOURCE

EFR - Emergency Fire Rehabilitation

METHODS

P - Agency Personnel Services

C - Contract (long-term)

PART F - POST-REHABILITATION REQUIREMENTS

The following are post-rehabilitation, implementation, operation, maintenance, monitoring, and evaluation actions beyond three years to ensure the effectiveness of initial investments. Estimated annual costs are indicated. Funding will be provided by Havasu National Wildlife Refuge.

Rehabilitation

1. Continue invasive species monitoring and control (\$5,000)
2. Monitor and maintain drip irrigation system (\$2,500)
3. Long-term Monitoring: Monitor riparian vegetation recovery (\$2,500)

PART G - REVIEW AND APPROVAL

I. Emergency Fire Rehabilitation (9262) Funding Approval (check one box below):

- Approved
- Approved with Revision (see attached)
- Disapproved

Title _____ Date _____

Regional Fire Management Coordinator concurrence that the plan fits the technical definition for use of Emergency Fire Rehabilitation funding. (*U.S. Fish and Wildlife Service Only*)

Regional Fire Management Coordinator, Region 2 _____ Date _____

II. Agency Operational Base Funding Approval (check one box below):

- Approved
- Approved with Revision (see attached)
- Disapproved

Title _____ Date _____

III. Emergency Fire Rehabilitation Funding Approval (check one box below):

- Approved
- Approved with Revision (see attached)
- Disapproved

Title _____ Date _____

APPENDIX I - ENVIRONMENTAL COMPLIANCE

Federal, State, and Private Lands Environmental Compliance Responsibilities

All projects proposed in the Winsor Fire Burned Area Emergency Stabilization and Rehabilitation (ESR) Plan that are prescribed, funded, or implemented by Federal agencies on Federal, State, or private lands are subject to compliance with the National Environmental Policy Act (NEPA) in accordance with the guidelines provided by the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500- U.S. Fish and Wildlife Service Fire Management Handbook (Release 7/17/00) and 095 FW3, 3.9 B,C. This Appendix documents the ESR Team considerations of NEPA compliance requirements for prescribed rehabilitation and monitoring actions described in this plan for all jurisdictions affected by the Winsor burned area emergency.

Related Plans and Cumulative Impact Analysis

The Lower Colorado River National Wildlife Refuges Comprehensive Management Plan approved 9/19/94 was reviewed and it was determined that actions proposed in the Winsor Fire BAER Plan within the boundary of the Winsor Fire are consistent with the management objectives established in the Comprehensive Management Plan. The Comprehensive Management Plan NEPA compliance process specifically addresses:

- Part III: Synthesis, Unit 1 Goals and Objectives, Issue 8: Revegetation
“In cooperation with the Bureau of Reclamation (BR), revegetate substantial amounts of habitat with native mixes of vegetation leading to biological diversity.

Cumulative Impact Analysis

Cumulative effects are the environmental impacts resulting from the incremental impacts of a proposed action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. The emergency protection and rehabilitation treatments for areas affected by the Winsor Fire, as proposed in the Winsor Fire ESR Plan, do not result in an intensity of impact (i.e. major ground disturbance, etc.) that would cumulatively constitute a significant impact on the quality of the environment. The treatments are consistent with the above jurisdictional management plans and associated environmental compliance documents and categorical exclusions listed below.

Applicable and Relevant Categorical Exclusions

The individual actions proposed in this plan for rehabilitation of the Winsor fire are Categorically Excluded from further environmental analysis as provided for in DM 516, DM 6, Appendix 1, 1.4 (4), (5), (6), (9), and (11).

Statement of Compliance for the Winsor Fire Burned Area Emergency Rehabilitation Plan.

This section documents consideration given to the requirements of specific environmental laws in the development of the Winsor Fire ESR Plan. Specific consultations initiated or completed during development and implementation of this plan are also documented. The following executive orders and legislative acts have been reviewed as they apply to the Winsor Fire ESR Plan:

- National Historic Preservation Act (NHPA).
- Executive Order 11988. Floodplain Management.
- Executive Order 11990. Protection of Wetlands.
- Executive Order 12372. Intergovernmental Review.
- Executive Order 12892. Federal Actions to Address Environmental Justice in Minority and Low-income Populations.
- Endangered Species Act.
- Secretarial Order 3127. Federal Contaminated
- Clean Water Act.
- Clean Air Act.

NEPA Checklist: If any of the following exception applies, the ESR Plan cannot be Categorical Excluded and an Environmental Assessment (EA) is required.

(Yes) (No)

- (x) Adversely affect Public Health and Safety
- (x) Adversely affect historic or cultural resources, wilderness, wild and scenic rivers aquifers, prime farmlands, wetlands, floodplains, ecologically critical areas, or Natural Landmarks.
- (x) Have highly controversial environmental effects.
- (x) Have highly uncertain environmental effects or involve unique or unknown environmental risks.
- (x) Establish a precedent resulting in significant environmental effects.
- (x) Relates to other actions with individually insignificant but cumulatively significant environmental effects.
- (x) Adversely effects properties listed or eligible for listing in the National Register of Historic Places
- (x) Adversely affect a species listed or proposed to be listed as Threatened or Endangered.
- (x) Threaten to violate any laws or requirements imposed for the "protection of the environment" such as Executive Order 11988 (Floodplain Management) or Executive Order 11990 (Protection of Wetlands).

National Historic Preservation Act

Ground Disturbance:

- (x) None
- () Ground disturbance did occur and an archeologist survey, required under section 110 of the NHPA will be prepared. A report will be prepared under contract as specified by the ESR Plan.

A NHPA Clearance Form:

- () Is required because the project may have affected a site that is eligible or on the national register. The clearance form is attached. SHPO has been consulted under Section 106 (see Cultural Resource Assessment, Appendix I).
- (x) Is not required because the ESR Plan has no potential to affect cultural resources (initial of cultural resource specialist).

Other Requirements

(Yes) (No)

- (x) Does the ESR Plan have potential to affect any Native American uses? If so, consultation with affiliated tribes is needed.
- (x) Are any toxic chemicals, including pesticides or treated wood, proposed for use? If so, local agency integrated pest management specialists must be consulted.

I have reviewed the proposals in the Winsor Fire Burned Area Emergency Stabilization and Rehabilitation Plan in accordance with the criteria above and have determined that the proposed actions would not involve any significant environmental effect. Therefore it is categorically excluded from further environmental (NEPA) review and documentation. ESR Team technical specialists have completed necessary coordination and consultation to insure compliance with the National Historic Preservation Act, Endangered Species Act, Clean Water Act and other Federal, State and local environment review requirements.

ESR Team Environmental Protection Specialist

Date

Project Leader, Havasu National Wildlife Refuge

Date

APPENDIX II - PHOTOS

